

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Forestry and Wildlife
Honolulu, Hawaii 96813

February 24, 2006

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Land Board Members:

SUBJECT: Establishment of the Hawaii Experimental Tropical Forest on State lands at Laupahoehoe, Hamakua, Hawaii and Puu Waawaa, Kona, Hawaii, Approval of Recommendations to the Governor of Hawaii and Secretary of Agriculture, and Authorization to Develop a Memorandum of Agreement with the U.S. Forest Service for Administration of the Experimental Forest sites

Background: In 1992, President George H.W. Bush signed into law the Hawaii Tropical Forest Recovery Act (Public Law 102-574, 1992), to promote the recovery of Hawaii tropical forests. The Act brought recognition to the value that Hawaii tropical forests provide to the nation and provided for preparation of an Action Plan for rejuvenating those forests and expansion of the Forest Service's Institute of Pacific Islands Forestry. In addition, the Act also authorized the establishment of the Hawaii Experimental Tropical Forest to serve as a center for long-term research, and a focal point for developing and transferring knowledge and expertise for the management of tropical forests. The Act provided that the Secretary shall, at the request of the Governor, establish the experimental forest in Hawaii.

On April 13, 2005, Hawaii Governor Linda Lingle formally requested of Secretary of Agriculture Michael Johanns, to take the necessary steps to establish the Hawaii Experimental Tropical Forest. Secretary Johanns agreed with the need and benefits of an experimental forest, and on June 29, 2005 requested that the Department and the U.S. Forest Service initiate a scoping process and preparation of a "Report of Findings" with recommendations on the establishment of an experimental forest in Hawaii. The Department and the U.S. Forest Service have completed the scoping process, and present their recommendations in the attached Report of Findings (Attachment 1) for Board consideration and approval.

Criteria for the Hawaii Experimental Tropical Forest: In considering the various forms that an experimental forest can take, the Department and Forest Service selected an approach where the experimental forest would be located on State lands and jointly managed under a cooperative

ITEM C-1

agreement. This model appeared to provide the best fit for the situation in Hawaii and needs of the Department, because it would enable active State involvement in the research program, facilitate a greater focus on Hawaii management issues, not require the time and expense of purchasing additional lands, and therefore allow use of limited resources for personnel and infrastructure.

The Act provided that the Governor and the Secretary shall identify one or more suitable sites within the State. The identification of each site should be based on scientific, ecological, administrative, and such factors as the Governor and Secretary consider to be necessary or desirable to achieve the purposes of the Act. Each site shall be of sufficient size and located so that the site can be effectively managed for (*experimental*) Forest purposes. The Department, Forest Service and other stakeholders developed a list of possible sites for evaluation and inclusion in the scoping process.

Scoping Process: Staff from the USDA Forest Service, Institute of Pacific Islands Forestry, and Department of Land and Natural Resources, Hawaii Division of Forestry and Wildlife, held a series of meetings and discussions engaging interested parties from throughout the State of Hawaii. A total of 9 wet forest locations and 9 dry forest locations received serious consideration and discussion by land managers, researchers, and the public. The top 6 wet forests and top 4 dry forests received a numerical ranking based on selection criteria, and were distributed to the public and interested stateholders for discussion at the meetings. The discussion considered the locations on the lists plus others suggested, including federal purchase of lands for the experimental forest.

The meetings varied in format and included participants from Federal, State and County Governments, organizations with a potential interest in experimental forests, communities near the proposed sites, the general public, and Advisory commissions. The scoping process included over 16 meetings and 21 organizations.

Recommended Sites:

The Laupahoehoe Forest rank highest according to the criteria for the wet forest sites and Puu Waawaa Forest ranked highest for a dry forest site. Both sites are recommended by the Department and U.S. Forest Service for identification as the experimental forest.

The Laupahoehoe Forest is located on the windward side of the Island on the slopes of the Mauna Kea Volcano. The current land ownership is administered by DOFAW as the Laupahoehoe Section of the Hilo Forest Reserve and, Laupahoehoe Natural Area Reserve (Map 1). The Laupahoehoe site contains magnificent examples of primary wet and rain forest, and is the habitat to numerous endangered plant and animal species. The dominant life zones are subtropical and lower montane wet and rain forests dominated by Ohia (*Metrosideros polymorpha*) and Koa (*Acacia koa*). In addition there are old plantations dominated by tropical ash, degraded pastures/koa forests, and numerous streams. Streams in the site include two first

order tributaries of Ka'awali'i Stream, Laupahoehoe Stream, Kilau Stream, Kiwilahiahi stream, Ha'ako'a Stream, and Pahale Stream. It has good road access for both scientists and the public. Adjacent private lands have a history of forest extraction, and would make excellent sites for restoration demonstration/research. Elevations below this site are privately owned and lands at upper elevations are administered by the Department of Hawaiian Homelands and the Division of Forestry and Wildlife. Locating an experimental forest in this area would provide researchers with a globally unique opportunity to study environmental gradients from the upper limits of agriculture at lower elevations through 8 life zones terminating at alpine at almost 14,000 feet in elevation.

Other advantages of this site include the fact that there is a history of research in this area. It is in close proximity to major populations on the Big Island. It is accessible to both of the Big Island Airports Hilo (45 minutes) and Kona Airports (1.5 hours). There exists an existing road that extends the length of the proposed forest. With improvements this could provide access for all potential users of the forest including researchers, students, and other visitors. The site is close to the Institute of Pacific Islands Forestry Headquarters and the University of Hawaii-Hilo campus where the administrative, greenhouse, and laboratory support would be located. All of these factors combine to make this site quite suitable for teaching and demonstration as well as research.

The Puu Waawaa site received the highest ranking of all dry forests considered. The proposed site includes the state lands being managed under the Puu Waawaa Management Plan (Map 2) under jurisdiction of State Parks, Land Division and Forestry and Wildlife. Tropical dry forests are among the most endangered forest types in the world and in Hawaii's the few remaining are severely threatened by wildfire, invasive species and land cover changes. Knowledge on the restoration of dry forests is a high priority for resource managers. This will require overcoming barriers to tree reestablishment, halting wildfires, and controlling invasive species. A 14-member advisory council has been appointed by the State, with the objective of managing the Puu Waa Waa Forest. The watershed (Ahupua'a) has an elevational range from sea level to 6,000 feet. It covers the gradient of the major dry and moist forest types in Hawaii (4 life zones). It contains examples of highly degraded as well as intact forests. Much of the moist forests at the upper elevations are dominated by the ecologically and economically important koa. Rainfall ranges from <10 inches to > 50 inches. An infrastructure of roads, houses, and water exists so future facilities development costs would be lower. It is located about 1 hour from the Kona Airport and about 1.5 hours from Hilo. There are numerous ongoing research projects occurring there, and collaborative opportunities with the University of Hawaii are great. Finally, there are long term relationships with government, local owners, the interested public, and community groups. Because the forests extend from 6000 feet to sea level, the potential to do watershed level studies and links of forests to marine environments are great.

Infrastructure Needs: The initial 5-year infrastructure and funding needs for the Hawaii Experimental Tropical Forest total \$6,000,000 and include \$300,000 for survey, planning, and environmental documentation; \$300,000 per year for hiring an information/data manager and a

site manager for both Puu Waawaa and Laupahoehoe; \$2 million for rehabilitation or construction of new structures, and \$2.2 million for road, trail and fencing construction. The funding will need to be incorporated into the U.S. Forest Service research budget over the next 5-years.

Public Comment: Most participants in the scoping meetings, as well as the leading state and federal agencies, showed great support for the establishment of the experimental forest on the Big Island and at Laupahoehoe and Puu Waawaa. Many of the participants also expressed support for establishing Demonstration Forests on the other main islands in the State. Organizations or Councils that officially supported the establishment of the Hawaii Experimental Tropical Forest and its location at Laupahoehoe and Puu Waawaa included the Hawaii Association of Conservation Districts, Puu Waawaa Advisory Council, the Natural Area Reserve Commission, and the Hawaii Conservation Alliance. Individuals or representatives of organizations that voiced support included Chancellor Rose Tseng from the University of Hawaii – Hilo, University of Hawaii – Manoa, Office of Hawaiian Affairs, Department of Hawaiian Homelands, Hawaii Department of Agriculture, U.S. Fish and Wildlife Service, U.S. National Park Service, USGS Biological Resources Division, USDA Natural Resources Conservation Services, Hawaii Forest Industry Association, and many other individuals.

The issues of concern voiced by some participants at scoping meetings were potential impacts on the hunting community by fencing or removal of lands now open to hunting for habitat restoration research, loss of hunting opportunity because of an increase in public uses in hunting areas, potential safety hazards of mixing researchers in hunting areas, and increased traffic into forest areas because of improved roads and the potential for introduction of weeds. Participants at the North Hilo Community Council meeting voiced support, but also requested that they be kept informed of future development and proposed research projects.

Next Steps: Upon approval by the Board, the recommendation for the Hawaii Experimental Tropical Forest will be forwarded to the Governor for review and approval, and transmitted to the Secretary of Agriculture for concurrence. Once approved by both the Governor and Secretary of Agriculture, the boundaries of the experimental forest will be established and a official map prepared and displayed in the office of the Administrator of the Division of Forestry and Wildlife. The Governor and the Secretary may from time to time, by mutual agreement, amend the official map to modify boundaries of the forest, or add demonstration forests.

The Department and U.S. Forest Service will develop a Memorandum of Agreement to administer the experimental forest, and the draft agreement will be submitted to the Board for review and approval. The U.S. Forest Service will request funding and begin initial planning, preparation and processing of environmental documentation, and application for needed permits. Once environmental documentation is completed and permits secured, proceed with planned development of the sites and initiation of research.

Concepts to be Addressed in the Memorandum of Agreement:

1. The experimental forest will be established on State lands and there will be no transfer of land to the federal government. Future expansion could include other private or federal land and fee purchase of lands.
2. The State and U.S. Forest Service will share responsibilities in the management of the experimental forest. The U.S. Forest Service would administer research activities and the research/education infrastructure, while land management and protection responsibilities would remain with the state.
3. The experimental forest would not affect jurisdiction of the State.
4. Natural Area Reserves (NAR), Forest Reserves (FR), Game Management Areas (GMA), Wildlife Sanctuaries (WS), State Parks (SP), Unencumbered State Lands (USL) within the boundaries of an experimental forest will continue to be managed under relevant state laws and regulations. Research on NAR, FR, GMA, WS, SP and USL lands would have to be conducted following existing statutes and rules and for the benefit of their management.
5. Research programs and activities will be designed and conducted in a manner consistent with the overall management goals of the lands on which they are conducted.
6. Access to the forest will not be prohibited. Research programs and activities will be designed and conducted in a manner, whereby there will be minimal impact on existing cultural and public uses of the designated area(s). While the public may be excluded around small areas of particularly sensitive research projects or for human safety issues, there are no plans to limit activities such as hunting or gathering within boundaries of the experimental forest. The experimental forest will provide new opportunities for people to learn about and appreciate Hawaiian forests.
7. The experimental forest that will be established to address the critical natural resource questions that must be answered to properly manage forests for a variety of objectives including restoration, preservation, and utilization including landscape-scale and long term studies critical to truly understand tropical forests.
8. U.S. Forest Service and State will coordinate research and management activities that occur on the experimental forest.

Analysis: The Division believes that establishment of an experimental forest on the Island of Hawaii at Laupahoehoe and Puu Waawaa will help achieve the stated objectives of the Hawaii Tropical Forest Recovery Act, to provide an area to conduct research, demonstration and education on management of tropical forests in the Pacific, and provide tools to restore and sustainably manage our forest resources. Benefits from the proposed project would include research on pressing Hawaii natural resource management issues, research on long-term questions such as impacts of global warming, providing a learning opportunity for school children of all ages to get into the forest, and demonstration and education opportunities for present and future generations of landowners, land managers, and local scientists. Establishment of the experimental forest will also provide economic and employment opportunities in these areas.

RECOMMENDATION

That the Board:

1. Approve the attached Report of Findings for the Establishment of the Hawaii Experimental Tropical Forest: Suggested Sites and Infrastructure Needs and the inclusion of the State lands in Laupahoehoe Natural Area Reserve, Laupahoehoe Section of the Hilo Forest Reserve and Puu Waawaa Ahupua'a as shown on attached maps into the Hawaii Experimental Tropical Forest.
2. Recommend to the Governor the identification of State lands in Laupahoehoe Natural Area Reserve, Laupahoehoe Section of the Hilo Forest Reserve and Puu Waawaa Ahupua'a to be included into the Hawaii Experimental Tropical Forest and transmittal of those recommendations to the Secretary of Agriculture.
3. Authorize the Department to develop a Memorandum of Agreement with the U.S. Forest Service to establish and administer the proposed sites as the Hawaii Experimental Tropical Forest, subject to Board and Attorney General approval, and to assist in the development and implementation of plans.

Respectfully submitted,



PAUL J. CONRY
Administrator

Attachment 1 (Report of Findings for the Establishment of
The Hawaii Experimental Tropical Forest: Suggested
Sites and Infrastructure Needs)

Attachment 2 (Map of Laupahoehoe Sect. of Hilo Forest
Forest Reserve & Laupahoehoe Nat. Area Reserve)

Attachment 3 (Map of state lands managed under Puu
Waawaa Management Plan)

APPROVED FOR SUBMITTAL:



PETER T. YOUNG, Chairperson
Board of Land and Natural Resource

**DRAFT-Final
REPORT OF FINDINGS
FOR THE ESTABLISHMENT OF
THE HAWAII EXPERIMENTAL TROPICAL FOREST:
SUGGESTED SITES AND INFRASTRUCTURE NEEDS**

PRESENTED TO:

**THE HONORABLE
U.S. SECRETARY OF AGRICULTURE MICHAEL
JOHANNES**

From

**THE HONORABLE
HAWAII GOVERNOR LINDA LINGLE
January 1, 2006**

On April 13, 2005, Hawai'i Governor Linda Lingle formally requested of Secretary of Agriculture Michael Johanns to take the necessary steps to establish the Hawai'i Experimental Tropical Forest as provided by the Hawai'i Tropical Forest Recovery Act of 1992 (Public law 102-574, 1992). This report was prepared as per the instructions of Secretary of Agriculture Mike Johanns. In his June 29, 2005 letter of reply to Governor Lingle he stated: "I suggest that a scoping process be conducted and a "Report of Findings" be prepared concerning the establishment of an experimental forest in Hawai'i. The scoping process will engage State and Federal officials and a wide range of stakeholders in a discussion of how they envision meeting the goals of the Act, with respect to the areas to be designated and facilities to be established."

This report specifically relates to the 1992 Hawai'i Tropical Forest Recovery Act Section 606 (c) (1) Delineation of the Location of the Forest – Identification of Lands - that states: "the Governor and the Secretary shall identify one or more suitable sites for the (*experimental*) forest in lands within the State. The identification of each site shall be based on scientific, ecological, administrative, and such factors as the Governor and Secretary consider to be necessary or desirable to achieve the purposes of this section. Each site identified pursuant to the preceding sentence shall be of sufficient size and located so that the site can be effectively managed for (*experimental*) forest purposes." This report is intended to assist the Governor and Secretary in fulfilling this section of the Act.

PURPOSE OF THE HAWAII EXPERIMENTAL TROPICAL FOREST

In his statement on signing the Hawai'i Tropical Forest Recovery Act of 1992 (Public Law 102-574, 1992), President George H.W. Bush stated, "this Act authorizes the establishment of the Hawai'i Experimental Tropical Forest. This experimental forest will serve as a center for long-term research and a focal point for developing and transferring knowledge and expertise for the management of tropical forests."

Section 606 of the Hawai'i Tropical Forest Recovery Act stated that the Hawai'i Experiment Forest shall be managed as:

- (1) A model of quality tropical forest management where harvesting on a sustainable basis can be demonstrated in balance with natural resource conservation;
- (2) A site for research on tropical forestry, conservation biology, and natural resource management; and
- (3) A center for demonstration, education, training, and outreach on tropical forestry, conservation biology, and natural resources research and management.

Hawaiian forests provide citizens of the United States with many ecosystem services vital to our economy, security, and well-being. Chief among these is an abundant supply of freshwater, forest products, carbon pools, wildlife habitats, recreational activities, and many other aesthetic and cultural values. These forest values suffer from many of the same threats affecting other USA forests - wildfires, exotic species, unmanaged recreation, and climate change. The objectives for establishment of the Hawai'i

Experimental Tropical Forest will be to conduct research, demonstration, and education that will provide information and tools so that managers can:

- Restore and sustainably manage tropical forests
- Understand linkages of forests to water resources
- Quantify, restore, and sustainably manage the ecosystem services¹ and forest products that arise from tropical forests
- Control invasive and exotic species that diminish forest productivity, biodiversity, and values.

The vision of the Hawai'i Experimental Forest is a research, demonstration, and educational forest focusing on ecological, economical, and cultural values important to all Hawaiians. The sites selected for the experimental forest will not only provide research opportunities requiring answers from world-class scientists, but also provide learning opportunities for school children of all ages. Demonstration and education opportunities for future generations of landowners, land managers, and scientists are just as important as providing the public with relevant research results.

CRITERIA FOR SELECTING OPTIMAL UNITS OF THE HAWAII EXPERIMENTAL TROPICAL FOREST

The Act states: "The Governor and the Secretary shall identify one or more suitable sites for the Forest in lands within the State. The identification of each site shall be based on scientific, ecological, administrative, and such other factors as the Governor and Secretary consider to be necessary or desirable..."

What is meant by scientific, ecological, and administrative?

Scientific – The units must be large enough for managerial-sized, landscape-scale studies to occur. A major focus of the Experimental Forest will be to quantify ecosystem or environmental services that arise from Hawaiian Forests. This will require studies of an ahupua'a, or watershed level approach. Large areas are needed for relevant "ridge to reef" and forest watershed/relationship studies.

Land and water managers and researchers agreed that optimally the wet forest unit should include surface stream(s) in order to conduct studies of aquatic organisms, hydrology, water quality, and forest-stream-reef relationships.

Ecological

The sites should encompass as much of the gradient of the diverse Hawaiian landscape as is possible. This includes a broad elevational, climatic, and soils gradients. Hawai'i contains some of the most dramatic climatic gradients on earth. For example, there are 26 life zones on the Island of Hawai'i. By comparison there are only 18 life zones in the

¹ Ecosystem Services are essential to human existence. They are the wide array of conditions and processes through which ecosystems, and their biodiversity confer benefits on humanity; these include the production of goods, life-support functions, life-fulfilling conditions, and preservation options (G. Daley and S. Dasgupta. 2001. *Encyclopedia of Biodiversity*. Vol 2. Academic Press.)

entire country of Brazil (see Appendix 2). The diverse landscapes justify the establishment of both dry and wet forest units as called for in the Secretary's letter. Hawai'i also contains a broad diversity of forests with varied land use histories. Ideally, the experimental forest units will also contain the broad range between the extremes between intact native forest and degraded sites wholly dominated by exotics.

In our rankings of ecological and scientific criteria for experimental forest establishment, we discussed site locations with a number of scientists, land managers, and community, environmental, and forest industry representatives. Sites for possible consideration had to meet the following criteria:

- **Suitable size** - The Act states that the experimental forest "shall be of sufficient size and located so that the site can be effectively managed for forest purposes". We interpreted this to include studies of sustainable forestry, water and watershed studies and the linkages of landscapes from forested ridges to coral reefs.
- **Encompass broad environmental gradients** - This includes as broad of a range in elevation, soils, climate, forest types, etc. as is possible. Because of the diversity of Hawaiian forests, a wet and dry forest unit was deemed necessary. In the wet forest unit, streams and riparian forests as well as upland forests are critical components.
- **Land use history variation** - Intact forests, plantations, sites dominated by invasive species, pastures, etc.
- **Access and proximity** - Ideally there would be an adequate system of roads or trails to access the areas or at least the potential to develop them; other considerations include access to laboratories and computing facilities, local accommodations, proximity to Universities, and Airports;
- **Potential to conduct long term research projects**- For this we considered: (1) silviculture (forest restoration, management, and sustainability of wood products, ecological, and cultural values); (2) hydrological (studies of water quantity and quality, aquatic ecosystems, and the capacity to locate paired watersheds for study; and (3) ecological - communities and habitats (the variety of land cover types in a size sufficient to conduct management-scale studies as well as serious issues such as global change and endangered species habitat needs.
- **Contain sites suitable to address many pressing land management needs** - such as native forest restoration, koa silviculture, effects and management of large ungulates and pigs, rodents, endangered species conservation and management concerns, invasive plant species, wildfire control, water and watershed issues.

Administrative

The research and research infrastructure will be managed by the Institute of Pacific Islands Forestry, USDA Forest Service, PSW Research Station. The new center headquarters will be the locale of laboratory facilities, administration, and data base/information management. It makes sense to establish the experimental forest units close to the Institute, which is located on the campus of the University of Hawai'i, Hilo.

We cannot predict what pressing resource questions will be facing land managers in 10, 25, or 50 years from now. For this reason, it is quite important to consider all of these criteria when deciding upon the location and size of the experimental forest units.

Social Benefits

The Hawai'i Experimental Tropical Forest will provide a number of benefits to the people of the state of Hawaii. Just as we cannot predict future resource needs, we also cannot predict all societal benefits. A few include:

Access. Providing public access for forest research, demonstration, and education is of paramount importance. Increased access and many new opportunities will be created. Access will be made available not only for world-class researchers and graduate students but also for K-12 students to conduct their own studies as well as learn of natural resource sciences and management. Visitor interpretation and outreach opportunities to the public will also be developed.

Education. The Experimental Forest will be a living learning laboratory where education programs will be provided for all from the youngest students to experienced professionals.

Community Pride. The experimental forest must maintain support from the local communities. We will work for the ideal that the Experimental forest will be a source of pride for surrounding communities because they are associated with an area solving local, regional, and global issues of great importance.

Fairness to Hawai'i. Hawaiian tropical forests are the only forests in the USA without representative experimental forests. This has excluded researchers in Hawai'i from many opportunities and deprived the citizens of important scientific studies to address their needs.

Economic and Employment. The return from forest research is expected to be many fold greater than the investment in science. Studies of the ecosystem services of economic, ecologic, and cultural value - water, wood, wildlife, are greatly needed in this part of the world. Local communities will also benefit from employment opportunities that will arise from the establishment and maintenance of the experimental forest units.

SCOPING PROCESS

In his reply to Governor Lingle's request for the establishment of the Hawai'i Experimental Tropical Forest, Secretary Johanns tasked the personnel of USDA's Forest Service (FS) and our colleagues in Hawai'i State Government, non-governmental organizations, private industry and the community to come together to discuss and propose where and how to establish the experimental forest. Secretary Johanns requested that a Report of Findings be prepared. He requested that we engage State and Federal officials, and a wide range of stakeholders in discussions of how they envision

meeting the goals of the act (section 606 b of the 1992 Tropical Forest Recovery Act) with respect to areas to be designated, and facilities to be established. He suggested stakeholders include surrounding communities, universities, local and state governments, and non-governmental organizations.

In response, leaders from the USDA Forest Service, Institute of Pacific Islands Forestry (IPIF) and Department of Land and Natural Resources (DLNR), Hawai'i Division of Forestry and Wildlife (DOFAW) have held a series of meetings and discussions engaging interested parties from throughout the State of Hawaii. The meetings varied in format. Some meetings included those that were attended by invitees from organizations with a potential interest in experimental forests, some meetings were advertised to the public, and some were of Advisory Commissions. The scoping process meetings included, or will include:

- Preliminary scoping meeting December 14, 2004, Division of Forestry and Wildlife Building, Hilo, Hawai'i (invitees representing private, state and federal agencies and the general public).
- Initial Presentation and Discussion, to the Hawai'i Natural Area Reserves System Commission, February 12, 2005, Honolulu, O'ahu.
- Scoping Meeting October 24, 2005, Division of Forestry and Wildlife Building Hilo, Hawai'i (invitees representing private, state and federal agencies and the general public).
- Seminar and public discussion on the Hawai'i Experimental Tropical Forest (advertised in the local paper) held at the University of Hawai'i, Hilo, evening of October 28, 2005.
- Meeting with Hawai'i Association of Conservation Districts, USFS, DOFAW, and DLNR, Institute of Pacific Islands Forestry Center, Hilo, October 31, 2005.
- Briefing and Discussion. Annual retreat of the Hawai'i Conservation Alliance. December 2, 2005 (Leaders from the 12 leading organizations on natural resource issues), Kilauea, Hawai'i.
- Discussion and site visit with Department of Hawaii Homelands Forest Manager, and personnel of the US Fish and Wildlife Service, Hakalau National Wildlife Refuge, Hawai'i, December 7-8, 2005.
- Presentation and Discussion - public meeting Hawai'i Association of Conservation Districts Meeting 'Aiea, O'ahu, January 10, 2006.
- Presentation and Discussion - public meeting Pu'u Wa'awa'a Advisory Council Pu'u Wa'awa'a, Hawai'i January 15, 2006.

- Presentation and Discussion - North Hilo Community Council Meeting, a public meeting attended by the citizens of Laupahoehoe, Hawai'i. January 19, 2006
- Presentation and Discussion - Hawai'i Natural Areas Reserves System Commission, February 13, 2006, Honolulu, O'ahu.
- Presentation and Discussion - Board of Land and Natural Resources, State of Hawai'i, February 24, 2006, Honolulu, O'ahu.

In addition to the general public, representatives from the following groups attended these meetings and provided inputs during the above mentioned meetings:

- Hawai'i Forest Industry Association
- Kamehameha Schools
- The Nature Conservancy of Hawai'i
- US Fish and Wildlife Service
- National Park Service
- The USGS-Biological Resources Division
- University of Hawai'i - Hilo
- University of Hawai'i - Manoa
- Natural Resources Conservation Service
- Ducks Unlimited
- Hawai'i Division of Forestry and Wildlife
- Hawai'i Department of Land and Natural Resources
- USDA Agricultural Research Service
- Hawai'i Association of Conservation Districts
- Hawai'i Department of Agriculture
- Hawai'i Conservation Alliance
- Department of Hawaiian Homelands
- USDA Forest Service Institute of Pacific Islands Forestry
- County of Hawai'i
- Parker Ranch

RECOMMENDED SITES

The Hawaiian Islands are a uniquely diverse place on earth. Hawai'i is the world's most isolated island archipelago and was the last place on earth to be discovered and colonized by humans. The extreme isolation of the islands produced, through evolution and speciation, a remarkable diversity of species that are found nowhere else on the planet. Approximately 1,033 plant species, 10,000 invertebrates, and 140 birds are native to the Hawaiian Islands of which 87% of the plants, 95% of the invertebrates and 100% of the forest birds are endemic (found nowhere else on earth.) These natural treasures are integral elements of the biological and cultural heritage of the Hawaiian Islands and their people. Hawai'i has also seen extraordinary rates of extinction and endangerment among its unique species with 317 species federally listed as threatened or endangered. An

additional 109 are listed as candidate species and species of concern. Tragically, extinctions continue at a rate of at least one species per year. In the last three decades alone, half of Hawaii's endangered forest bird species have disappeared, in all likelihood, lost forever to extinction.

Following the criteria outlined in the 1990 and 1992 acts, we contacted researchers, land managers, land owners, and many interested citizens to gain their suggestions on the most optimum locations for the citing of the Hawai'i Tropical Experimental Forest. In our inquiries we further followed the logic of the Secretary Johann's memo with the assumption of the need to establish a "dry forest" and a "wet forest" unit. The pros and cons of many potential areas on all of the major Hawaiian Islands were discussed. Most of the interest and attention turned to the Big Island (Hawai'i Island) for the unique abundant resource opportunities it offers as an experimental forest. Locating the experimental forests on the Big Island is logical because this island encompasses a land area greater than the rest of the Islands, and with the representative threats common to all. On the Big Island there exists a remarkable mosaic of plant communities including grasslands, thorn shrub, dry forests, rain forests, and alpine. This affords a tremendous opportunity to establish experimental forests that will yield useful information not only for Hawai'i and the Pacific, but also for many areas of the continental USA, and other areas of the world. Additionally, locating the experimental forest units on the Big Island near the new Institute of Pacific Islands Forestry Research Center in Hilo would provide greater efficiencies and interaction for administrative and technical support. Infrastructure and support personnel for computing, wet laboratories, and greenhouses are already in place and dedicated to research.

A total of 9 wet forest locations and 9 dry forest locations received serious consideration and discussion by land managers, researchers, and the public. Of these we have provided a numerical rating for the top 6 wet forests and the top 4 dry forests (Table 1). Following the criteria outlined in the 1990 and 1992 acts, the Laupahoehoe Forest was the highest ranked site of the wet forest. The Pu'u Wa'awa'a Dryland Forest is ranked highest for a dry forest experimental forest location.

The Laupahoehoe Forest area had among the highest rankings for all criteria considered. This forest is located on the windward side of the Island on the slopes of the Mauna Kea Volcano. The Laupahoehoe site contains magnificent examples of primary wet and rain forest and is the habitat to numerous endangered plant and animal species. The dominant life zones are subtropical and lower montane wet and rain forests dominated by 'Ohi'a (*Metrosideros polymorpha*) and Koa (*Acacia koa*). In addition there are old plantations dominated by tropical ash, degraded pastures/koa forests, and numerous streams. Streams in the site include two first order tributaries of Ka'awali'i Stream, Laupahoehoe Stream, Kilau Stream, Kiwilahiahi Stream, Ha'ako'a Stream, and Pahale Stream. It has good road access for both scientists and the public. The land is currently administered by the State Department of Land and Natural Resources, Division of Forestry and Wildlife (DLNR/DOFAW) as a Forest Reserve and a Natural Area Reserve. Adjacent private lands have a history of forest extraction and would make excellent sites for restoration demonstration/research. Elevations below this site are privately owned; lands at upper

elevations are administered by the State Department of Hawaiian Homelands and DOFAW. Locating an experimental forest in this area would provide researchers with a globally unique opportunity to study environmental gradients from the upper limits of agriculture at lower elevations through 8 life zones terminating at alpine at almost 14,000 feet in elevation.

Other advantages of this site include the fact that there is a history of research in this area. It is in close proximity to major populations on the Big Island. It is accessible to both of the main Big Island Airports: Hilo (45 minutes) and Kona (1.5 hours). There is an existing road that extends the length of the proposed forest. With improvements this could provide access for all potential users of the forest including researchers, students, and other visitors. The site is close to the Institute of Pacific Islands Forestry Headquarters and the University of Hawai'i-Hilo campus where the administrative, greenhouse, and laboratory support would be located. All of these factors combine to make this site quite suitable for teaching and demonstration as well as research.

The Pu'u Wa'awa'a Dryland Forest received the highest ranking of all dry forests considered. Tropical dry forests are among the most endangered forest types in the world and in Hawaii's few remaining are severely threatened by wildfire, invasive species and land cover changes. There are no tropical dry forests represented in forest experiment stations in the USA and very few across the world, even though they are the most widespread of tropical ecosystems. Knowledge on the restoration of dry forests is a high priority for resource managers. This will require overcoming barriers to tree reestablishment, halting wildfires, and controlling invasive species. Other high priorities include wildfire management, invasive species, wildlife game management and endangered species management. A 14-member advisory council has been appointed by the State with the objective of managing the Pu'u Wa'awa'a forest area. They have given their support for this 40,000-acre site being identified as an experimental forest. The watershed (ahupua'a) has an elevational range from sea level to 6,300 feet. It covers the gradient of the major dry and moist forest types in Hawai'i (4 life zones). It contains examples of highly degraded as well as intact forests. Much of the moist forests at the upper elevations are dominated by the ecologically and economically important koa. Rainfall ranges from <10 inches to > 50 inches. An infrastructure of roads, houses, and water exists so future facilities development costs would be lower. It is located about 1 hour from the Kona Airport and about 1.5 hours from Hilo. There are numerous ongoing research projects occurring there and collaborative opportunities with the University of Hawai'i are great. Finally, there are long-term relationships with government, local owners the interested public and community groups. Because the forests extend from 6,000 feet to sea level, the potential to do watershed-level studies and links of forests to marine environments are great.

THE 1994 HAWAII TROPICAL FOREST RECOVERY ACTION PLAN: POTENTIAL FUTURE SITES FOR DEMONSTRATION FORESTS

Another product of the 1992 Act was the 1994 Hawai'i Tropical Forest Recovery Action Plan. This plan concluded that selection of an experimental forest(s) is critical to the

success of the science intended for forest recovery in Hawai'i. The plan recommended that the federal government create a network of experimental forests with associated facilities to meet scientific and management objectives to restore deficient or degraded forests" (Recommendation 17 of the Hawai'i Tropical Forest Recovery Action Plan). The stated Desired Future Condition for an experimental forest was: "adequate experimental forests and associated facilities exist to provide for the necessary science needed to restore and maintain Hawaii's forests. Facilities have been developed to meet the needs of visiting scientists...The facilities associated with the experimental forest headquarters provide teaching and science laboratories appropriate to a field site" (p. 56 1994 Hawai'i Tropical Forest Recovery Action Plan).

Many of the participants as well as the leading state and federal agencies in the scoping process showed great support for not only the establishment of the experimental forest on the Big Island, but also to begin the planning process for establishment of Demonstration Forests on other main islands in the State. This is in line with Recommendation 18 of the 1994 Hawai'i Tropical Forest Recovery Action Plan: Create a network of demonstration forests in all islands with a diversity of willing landowners to provide an opportunity to use existing and new knowledge on the ground and assist private land owners with currently available technical knowledge and applied research. Participants expressed interest in a demonstration forest at Koke'e, Kaua'i to test silviculture techniques for Koa. Wildland/Urban interface issues on O'ahu, particularly fire issues in the Wai'anae areas, was another example of the needs demonstration forests on other islands could address.

Next Steps

Once the locations are identified by the Governor and Secretary, Section 606 (c) (2) states: "the exterior boundaries of the Forest including the boundaries of all sites identified for (experimental) forest purposes shall be delineated on an official map. The map shall be available for public inspection in the office of the Administrator of the Division of Forestry and Wildlife of the Department of Land and Natural Resources of the State. The Governor and the Secretary may from time to time, by mutual agreement, amend the official map to modify boundaries of the forest." At the present time the primary choices identified are the Laupahoehoe Forest Reserve/Natural Area Reserve (wet forest) and the Pu'u Wa'awa'a Watershed (dry forest).

This report will be made available to interested persons and will be posted on the Division of Forestry and Wildlife, DLNR and U.S. Forest Service, IPIF web pages.

Table 1. Results of the Ranking exercise for potential Hawaii Experimental Forest sites. This exercise was the results of field visits and consultation with scientists, land managers and land owners familiar with the areas. The rankings range from 1=lowest (not appropriate or limiting to address land management needs) to 4=highest, ideal conditions exists to address land management needs.

| Potential Wet Forest Site | Size (ha) | Land ownership | Environmental gradients -- soils, climate (and must have streams) | Land-use Variation | Access and proximity | Potential for long term projects | | | Total Score |
|---------------------------|-----------|----------------------|---|--------------------|----------------------|------------------------------------|--------------|-------------------------------------|-------------|
| | | | | | | Forest Management and Silviculture | Hydrological | Ecological communities and habitats | |
| Laupahoehoe FR, NAR | >4000 | DOFAW, DHHL, private | 4 | 4 | 3 | 4 | 3 | 4 | 22 |
| Hilo FR | >4000 | DOFAW | 4 | 3 | 3 | 2 | 4 | 3.5 | 19.5 |
| Ka'u FR | >4000 | DOFAW | 3 (ephemeral stream) | 4 | 2.5 | 3.5 | 2 | 3.5 | 18.5 |
| Waiakea FR | >4000 | DOFAW | 3 | 2.5 | 4 | 2 | 1 | 3 | 17.5 |
| Keauhou Ranch | >4000 | KS | 3 | 3 | 2.5 | 4 | 2 | 3 | 17.5 |
| Kohala FR | >4000 | DOFAW | 2 | 2 | 1 | 1 | 4 | 3 | 13 |

Other potential Wet forest sites not ranked = Piha FR, Hakalau NWR, Volcanoes National Park

| Potential Dry site | Size (ha) | Land ownership | Environmental gradients --soils and climate | Land-use Variation | Access and proximity | Potential for long term projects | | | Total Score |
|--------------------|-----------|----------------|---|--------------------|----------------------|------------------------------------|-----------------|-------------------------------------|-------------|
| | | | | | | Forest Management and Silviculture | Hydrological ** | Ecological communities and habitats | |
| Pu'u Wa'awa'a | >4000 | DOFAW | 4 | 4 | 4 | 3 | 3 | 4 | 22 |
| Manuka-NARS | >4000 | NARS | 3 | 3 | 2 | 2 | 2 | 3 | 15 |
| South Kona FR | <4000 | DOFAW | 2 | 3 | 1 | 4 | 2 | 2.5 | 14.5 |
| Pu'uuanahulu FR | >4000 | DOFAW | 3 | 2 | 3 | 1 | 2 | 2 | 13 |

Other Dry sites not ranked, Honaunaulu FR, Ka'upulehu private and FR, Ka'u ahupua'a -- private, Honomalino-TNC, and Hakalau-South Kona-NWR

** - research on processes such as fog drip, precipitation, ground water flow recharge, runoff

Environmental Gradients - There is a great need to encompass the incredibly broad environmental gradients of Hawaii and the Pacific Islands. Gradients include a wide range of elevation, climate (life zones), forest types, and soils (ages, parent materials). Gradients also encompass the diversity of the landscape where it is most desirable to contain upland forests, riparian (stream-side) forests, and freshwater ecosystems (streams).

Land use Variation - The types of research needs include those needed by private forest owners as well as public lands managers. Land use variation includes primary forest, secondary forests, plantations, pastures, sites dominated by invasive species, sites susceptible to incipient invasions.

Access and Proximity - The sites must be readily accessible (or have the potential for such) in order to be efficiently and effectively utilized. They will need a series of road and trails to provide access. Desirable traits also include relatively close proximity to the IPIF headquarters, airports, and Universities.

Potential for Long Term projects - All sites have the potential to collect long term data on climate, forest change, Carbon/global change research, etc. Of importance in Hawaii are sites for **Forest Management and Silviculture** for ecological, economic, and cultural values); **Hydrological** - water quality, quantity, aquatic organisms, and other aquatic resources; and **Ecological Communities and Habitats** (control of invasive species, fire control, forest and wildlife habitat restoration, etc).

INFRASTRUCTURE NEEDS

DRAFT 5 YEAR INFRASTRUCTURE PLAN FOR THE HAWAII EXPERIMENTAL FOREST

Experimental Forest establishment needs (as outlined in the Hawaii Tropical Forest Recovery Act 1992) (\$300,000)

- Survey – Initial inventories
- Establishment/legal needs/GIS and mapping needs
- Building, road, and trail design
- Environmental analyses or similar documents

Human Capital (\$300,000/yr)

- Site managers
- Information/data manager

Structures (\$2.00 million)

- Dormitory (5-10 rooms, kitchen, common area; Laupahoehoe wet forest)
- Upgrade of existing houses at Puu waa waa dry forest
- Covered instructional area 1400 sq ft with storage area, flooring, bathroom wet forest site (Laupahoehoe wet forest)
- Research lab/field offices/outbuildings – for sorting , sample preparation, and processing (1500 sq ft) both sites
- Water catchment system/ electrical systems (generator/solar at the Laupahoehoe wet forest)
- bring power to the Puu waa waa dry forest)

Road, Trail and Fencing Construction /Improvements (\$2.2 million)

- Materials and design for demonstration/education site
- Road improvements to both forests
- Trail design and construction and equipment for maintenance for both sites

TOTAL \$6,000,000

APPENDICES

1. Frequently Asked Questions
2. Life zone map of the Big Island of Hawaii
3. Letter of Request from Governor Linda Lingle
4. Letter of Reply from Secretary Michael Johanns
5. Hawaii Tropical Forest Recovery Act of 1992

1. FREQUENTLY ASKED QUESTIONS **related to the establishment of** **THE HAWAI`I EXPERIMENTAL TROPICAL FOREST**

What is the Hawai`i Experimental Tropical Forest?

The desire to establish an experimental forest in Hawai`i has been in the minds of visionary land managers, researchers, and decision makers for decades. It rose to the forefront with the passage of the International Tropical Forest Recovery Act of 1990 and the Tropical Forest Recovery Act of 1992. In these acts it is stated:

“At the request of the Governor, the Secretary shall establish and administer within the State a Hawai`i Experimental Tropical Forest. The Forest shall be managed as -
(1) a model of quality tropical forest management where harvesting on a sustainable yield basis can be demonstrated in balance with natural resource conservation;
(2) a site for research on tropical forestry, conservation biology, and natural resource management; and
(3) a center for demonstration, education, training, and outreach on tropical forestry, conservation biology, and natural resources research and management.”

The vision for the Hawai`i Experimental Tropical Forest is to establish a *research, demonstration and educational forest focusing on ecological, economical and cultural values important to all Hawaiians.*

Where do we stand now?

In April 2005, Governor Linda Lingle formally requested that US Secretary of Agriculture Michael Johanns establish the Hawai`i Experimental Tropical Forest as prescribed in the Tropical Forest Recovery Act of 1992. In July, 2005 Secretary Johanns replied that he would take the necessary steps for establishment of both dry and wet forest units of an experimental forest. He requested that federal officials (the Forest Service - IPIF) work with State of Hawai`i resource officials (DOFAW) to lead a scoping process to identify suitable sites for the establishment of an experimental forest. A report to the Secretary is due January 1, 2006.

Why is it important to establish a Hawai`i Experimental Tropical Forest?

Currently Hawaiian forests are the only US Forests where no experimental forest exists, and this has deprived Hawai`i and other Pacific Islands, of the benefits of research, education and demonstration products that would arise from experimental forests. Establishment of an experimental forest will greatly increase opportunities for Hawaiian students of all ages to conduct projects on lands dedicated for that purpose.

The 1994 Hawai`i Tropical Forest Recovery Task Force stated that selection of an experimental forest(s) is critical to the success of the science intended for forest recovery in Hawai`i. Recommendations of the Task Force included: “Create a network of experimental forests with associated facilities to meet scientific and management objectives to restore deficient or degraded forests” (Recommendation 17 of the Hawai`i Tropical Forest Recovery Action Plan).

Is this just another Federal take over of lands in Hawai'i?

No, currently the plan is for the US Forest Service, Institute of Pacific Islands Forestry and the Department of Land and Natural Resources to develop together, some vehicle, to establish an experimental forest on public lands administered by the Division of Forestry and Wildlife. Under this scenario there will be no lands transferred to the Federal Government.

Who will manage the Hawai'i Experimental Tropical Forest?

This was addressed in the 1990 and 1992 acts which states:

The Secretary is authorized –

- (A) to administer the Forest in cooperation with the Governor and affected State agencies;
- (B) to make grants and enter into contracts and cooperative agreements with the Federal Government, the government of the State, local governments, corporations, nonprofit organizations and individuals...

This means that state agencies (DOFAW) and the US Forest Service-IPIF both will have responsibilities in the management of the experimental forest. It is likely that the USFS-IPIF would administer research activities and the research/education infrastructure, while land management and protection responsibilities would remain with the State. The primary mission of the experimental forest will be research, education, and demonstration for improved understanding and management of Hawaii's forest resources. This will no doubt influence how lands within the boundary will be managed because this will be a unique mission on these lands.

The 1990 act states:

"Nothing in this section is intended to affect the jurisdiction of the State, both civil and criminal, over any person within the Forest by reason of the establishment of the Forest under this section, except in the case of a penalty for an offense against the United States".

Natural Area Reserves (NAR) and Forest Reserves (FR) within the boundaries of an experimental forest will continue to be managed under relevant state laws and regulations. Research on NAR and FR lands would have to be conducted following existing statutes and rules and for the benefit of their protection and management.

Where will the Hawaii Experimental Tropical Forest be located?

This is yet to be decided. Factors in the decision include considerations of appropriate resources, access, proximity to laboratories, computing and managing facilities. The new IPIF complex on the campus of the University of Hawai'i - Hilo will provide the headquarters of the experimental forest.

The 1990 act stated: "The Governor and the Secretary shall identify one or more suitable sites for the Forest in lands within the State. The identification of each site shall be based on scientific, ecological, administrative, and such other factors as the Governor and

Secretary consider to be necessary or desirable... Each site identified pursuant to the preceding sentence shall be of sufficient size and located so that the site can be effectively managed for Forest purposes”.

Will the Public be excluded from the Hawai'i Experimental Tropical Forest?

No. The experiment will provide unprecedented access for Hawaiians, and other members of the public, to their forests. Many new opportunities will be provided for people to learn about and appreciate Hawaiian forests. While the public may be excluded around small areas of particularly sensitive research projects or for human safety issues, there are no plans to limit activities such as hunting or gathering within boundaries of the experimental forest. Research programs and activities will be designed and conducted in a manner whereby there will be no impact or minimal impact on existing cultural and public uses of the designated area(s).

What kinds of research will be conducted on the Hawai'i Experimental Tropical Forest?

This is an experimental forest that will be established to address the critical natural resource questions that must be answered to properly manage forests for a variety of objectives including restoration, preservation, and utilization. The experimental forest will be a location to conduct relevant natural resource related research- both biological and physical in nature. Studies related to management of forests, natural areas, wildlife, streams, watersheds, and fire as well as silviculture, soil ecology, invasive species and global change are appropriate (and mentioned in the Acts). Landscape-scale and long-term studies critical to truly understand tropical forests will be established in the experimental forest. The experimental forest areas must be established with the recognition that we do not know what will be the critical issues in 25, 50 or 100 years from now.

Who will benefit?

The people of the State of Hawai'i will be the greatest beneficiaries. This will provide many new public education and research opportunities for the state and will increase our understanding of Hawaiian forests and ways to sustainably manage them. A heightened awareness of Hawaiian forests and their numerous values will arise from the experimental forest.

Who will conduct this Research?

With the establishment of an experimental forest in Hawai'i we expect that we will attract some of the best scientists in the world to conduct research on the sites. This will include scientists from federal agencies such as the Forest Service and USGS, State agencies, and University students and professors. In most cases researchers from local universities are the greatest beneficiaries. But studies are not limited to University, federal, and state scientists. Students of all ages will be eligible to conduct studies and participate in projects on the experimental forest.

Will the area be limited to Research?

No. The primary reason to establish an Experimental Forest is to create and disseminate useful information for the citizens of Hawai'i, and the Pacific. An important function includes education and demonstration. This includes activities for professionals, students of all ages, teachers, and the interested public.

Life Zone Map of Hawaii





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EXECUTIVE CHAMBERS
HONOLULU

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LINDA LINGLE
GOVERNOR

April 13, 2005

DEPT
& NATURAL
STATE

The Honorable Michael Johanns
Secretary of Agriculture
U.S. Department of Agriculture
1400 Independence Avenue, S.W.
Washington, DC 20250

Dear Mr. Johanns:

It is my pleasure, as Governor of the State of Hawaii, to formally request that you take the steps necessary to establish a Hawaii Experimental Tropical Forest as provided by the Hawaii Tropical Forest Recovery Act of 1992 (Public Law 102-574, 1992).

Last year, the State of Hawaii celebrated the 100th anniversary of the establishment of the forest reserve system in Hawaii. Over the years the system has expanded to include over 850,000 acres and is the 11th largest in the nation. This year marks the beginning of a new century for management of the forest reserve system. It is fitting that we begin this new era with a significant investment in the future - the establishment of a Hawaii Experimental Tropical Forest.

Section 606(b) of the Hawaii Tropical Forest Recovery Act provides that: "At the request of the Governor (of Hawaii), the Secretary (of Agriculture) shall establish and administer within the State, a Hawaii Experimental Tropical Forest. The Forest shall be managed as--

- (1) a model of quality tropical forest management where harvesting on a sustainable basis can be demonstrated in balance with natural resource conservation.
- (2) a site for research on tropical forestry, conservation biology, and natural resource management; and
- (3) a center for demonstration, education, training, and outreach on tropical forestry, conservation biology, and natural resources research and management."

In his statement on signing the Hawaii Tropical Forest Recovery Act of 1992 (Public Law 102-574, 1992), President George H. W. Bush stated that "this Act authorizes the establishment of the Hawaii Experimental Tropical Forest. This experimental forest will serve as a center for long-term research and a focal point for developing and transferring knowledge and expertise for the management of tropical forests." That vision remains.

The Honorable Mike Johanns
April 13, 2005
Page 2

This is an important step to provide Hawaii with the infrastructure and resources to advance the knowledge and practical management of tropical forest ecosystems. Notably, Hawaiian forests are the only forests in the United States not served by an experimental forest, and no experimental forest exists in any other U. S. territory in the Tropical Pacific. Given the unique resources in this, the largest tropical forests in the U. S., establishment of an experimental forest in Hawaii is timely and important and will surely become a research, teaching, and demonstration forest of value to all Americans.

We look forward to working with you in accomplishing this important task. Mr. Peter Young, Director of the Department of Land and Natural Resources (DLNR), and Paul Conry, Administrator of the DLNR's Division of Forestry and Wildlife, are prepared and ready to work with you and your staff on the next step in this process, to evaluate and select an appropriate site.

Thank you for taking action on this important issue.

Sincerely,


LINDA LINGLE

Aloha Mike,

*I hope all is well with you
and that you might come out and
visit sometime.*

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FORESTRY & WILDLIFE
STATE OF HAWAII



United States Department of Agriculture

Office of the Secretary
Washington, D.C. 20250

JUN 29 2005

The Honorable Linda Lingle
Governor
State of Hawaii
State Capitol
Executive Chambers
Honolulu, Hawaii 96813

Dear Governor Lingle:

Thank you for your letter of April 13, 2005, in which you requested that the Department of Agriculture (USDA) establish the Hawaii Experimental Tropical Forest as provided by the Hawaii Tropical Forest Recovery Act of 1992 (the Act), (Public Law 102-574, 1992). I am working closely with personnel of USDA's Forest Service (FS) and our colleagues in Hawaiian State Government, non-governmental organizations and private industry, to establish the forest.

Hawaiian forestry and natural resource leaders in the 1994 Hawaii Tropical Forest Action Plan recommended that we "should create a network of experimental forests with associated facilities to meet scientific and management objectives to restore deficient or degraded forests."

As a first step, I suggest that a scoping process be conducted, and a "Report of Findings" be prepared concerning the establishment of an experimental forest in Hawaii. The scoping process will engage State and Federal officials and a wide range of stakeholders in a discussion of how they envision meeting the goals of the Act, with respect to the areas to be designated and facilities to be established. The stakeholders would include, but not be limited to, surrounding communities, universities, local and State governments, and non-governmental organizations. The target date for completion of this report is January 1, 2006. Based on this report, I will identify, in collaboration with you and your staff, land suitable for designation as the experimental forest.

The experimental forest would be managed in accordance with the objectives in section 606 (b) of the Act. Because of the great diversity of Hawaiian forests, ranging from dry forests to rain forests, I anticipate that both a dry forest and wet forest experimental unit will be needed. The experimental forest will be administered by USDA's FS, Pacific Southwest Research Station, and Institute of Pacific Islands Forestry (IPIF). The new state-of-the-art IPIF research complex located on the University of Hawaii Hilo campus will function as the headquarters and provide laboratory and computing support for the experiment station.

The Honorable Linda Lingle

Page 2

Again, I am pleased to fulfill my role as Secretary in the establishment of this important research forest that will benefit not only the people of Hawaii and the Pacific, but all citizens of the United States.

Thank you for your interest in establishing the Hawaii Experimental Tropical Forest.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Johanns". The signature is fluid and cursive, with a long horizontal stroke at the end.

Mike Johanns
Secretary

PL 102-574, October 29, 1992, 106 Stat 4593

UNITED STATES PUBLIC LAWS
102nd Congress - Second Session
Convening January 3, 1992
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PL 102-574 (S 2679)
October 29, 1992
HAWAII TROPICAL FOREST RECOVERY ACT

An Act to promote the recovery of Hawaii tropical forests, and for other purposes.

Be It enacted by the Senate and House of Representatives of the United States
of America in Congress assembled,

<< 16 USCA § 4501 NOTE >>

SECTION 1. SHORT TITLE.

This Act may be cited as the "Hawaii Tropical Forest Recovery Act".

SEC. 2. HAWAII TROPICAL FOREST RECOVERY.

(a) IN GENERAL.--The International Forestry Cooperation Act of 1990 (16 U.S.C. 4501 et seq.) is amended--

- (1) by redesignating sections 605, 606, and 607 as sections 609, 610, and 611, respectively; and
- (2) by inserting after section 604 the following new sections:

<< 16 USCA § 4503a >>

"SEC. 605. INSTITUTE OF PACIFIC ISLANDS FORESTRY.

(a) EXPANSION.--The Secretary shall expand the capabilities of and construct additional facilities, as funds are appropriated for the expansion and construction, at--

(1) the Institute of Pacific Islands Forestry; and

(2) tropical forests in the State of Hawaii.

(b) TROPICAL FORESTRY PLAN.--

(1) IN GENERAL.--Not later than 1 year after the date of receipt by the Secretary of the action plan required by section 5(b) of the Hawaii Tropical Forest Recovery Act, the Secretary shall prepare and submit to the Committee on Agriculture and the Committee on Interior and Insular Affairs of the House of Representatives, the Committee on Agriculture, Nutrition, and Forestry of the Senate, and to the Committees on Appropriations of the House of Representatives and Senate, a tropical forestry plan to expand the capabilities of and construct additional facilities under subsection (a).

(2) ELEMENTS.--The plan shall provide for--

(A) the establishment of a model center for research, demonstration, education, training, and outreach activities suitable for transferring scientific, technical, managerial, and administrative assistance to governmental and non-governmental organizations seeking to address problems associated with tropical forests within and outside the United States;

(B) the acquisition or construction of facilities for research, classroom instruction, and housing near an experimental tropical forest in the State of Hawaii;

(C) the acquisition or construction of facilities for the study and recovery of endangered tropical wildlife, fish, and plant species and the restoration of their habitats;

(D) the study of biological control of non-native species that degrade or destroy native forest

ecosystems;

<<PUB#PG=1000457,4594>>"(E) achieving a better understanding of global climate change and the significance of achieving a reduction of greenhouse gases through research associated with the unique atmospheric conditions found in Hawaii and the Pacific Ocean;

"(F) a review of the extent to which existing Federal forestry programs can be utilized to achieve the purposes of the plan; and

"(G) the establishment of experimental tropical forests in the State of Hawaii as authorized by section 606.

"(3) CAPABILITY.--In preparing elements of the plan that address paragraph (2)(F), the Secretary shall identify the capability of the plan--

"(A) to promote a greater understanding of tropical forest ecosystem processes, conservation biology, and biodiversity management;

"(B) to demonstrate the various benefits of maintaining a tropical forest reserve system;

"(C) to promote sound watershed and forest management;

"(D) to develop compatible land uses adjacent to protected natural areas; and

"(E) to develop new methods of reclaiming and restoring degraded lands.

<< 16 USCA § 4503b >>

"SEC. 606. HAWAII EXPERIMENTAL TROPICAL FOREST.

"(a) DEFINITIONS.--As used in this section:

"(1) FOREST.--The term 'Forest' means the Hawaii Experimental Tropical Forest.

"(2) GOVERNOR.--The term 'Governor' means the Governor of Hawaii.

"(3) LANDS.--The term 'lands' means lands, waters, and interests in lands and waters.

"(4) STATE.--The term 'State' means the State of Hawaii.

"(b) ESTABLISHMENT AND MANAGEMENT.--At the request of the Governor, the Secretary shall establish and administer within the State a Hawaii Experimental Tropical Forest. The Forest shall be managed as--

"(1) a model of quality tropical forest management where harvesting on a sustainable yield basis can be demonstrated in balance with natural resource conservation;

"(2) a site for research on tropical forestry, conservation biology, and natural resource management; and

"(3) a center for demonstration, education, training, and outreach on tropical forestry, conservation biology, and natural resources research and management.

"(c) DELINEATION OF THE LOCATION OF THE FOREST.--

"(1) IDENTIFICATION OF LANDS.--The Governor and the Secretary shall identify one or more suitable sites for the Forest in lands within the State. The identification of each site shall be based on scientific, ecological, administrative, and such other factors as the Governor and Secretary consider to be necessary or desirable to achieve the purposes of this section. Each site identified pursuant to the preceding sentence shall be of sufficient size and located so that the site can be effectively managed for Forest purposes.

<<PUB#PG=1000457,4595>>"(2) EXTERIOR BOUNDARIES.--The exterior boundaries of the Forest, including the boundaries of all sites identified for Forest purposes, shall be delineated on an official map. The map shall be available for public inspection in the office of the Administrator of the Division of Forestry and Wildlife of the Department of Land and Natural Resources of the State. The Governor and the Secretary may from time to time, by mutual agreement, amend the official map to modify the boundaries of the Forest.

"(d) AUTHORITIES OF THE SECRETARY.--

"(1) IN GENERAL.--To carry out the purposes of this section, the Secretary is authorized--

"(A) to administer the Forest in cooperation with the Governor and affected State agencies;

"(B) to make grants and enter into contracts and cooperative agreements with the Federal Government, the government of the State, local governments, corporations, nonprofit organizations and individuals;

"(C) to exercise existing authority with respect to cooperative forestry and research for Forest purposes; and

"(D) to issue necessary rules and regulations or apply existing rules and regulations applicable to areas administered by the Forest Service that are necessary or desirable to administer the Forest--

"(i) for the purposes described in subsection (b);

"(ii) to protect persons within the Forest; and

"(iii) to preserve and protect the resources in the Forest.

"(2) LAND ACQUISITION.--The authority in section 4 of the Forest and Rangeland Renewable Resources Research Act of 1978 (16 U.S.C. 1643) shall be available to the Secretary to carry out this section.

"(3) STATUTORY CONSTRUCTION.--Nothing in this section is intended to affect the jurisdiction of the State, both civil and criminal, over any person within the Forest by reason of the establishment of the Forest under this section, except in the case of a penalty for an offense against the United States.

<< 16 USCA § 4503c >>

"SEC. 607. ANNUAL REPORT ON INSTITUTES OF TROPICAL FORESTRY.

"The Secretary shall make annual reports to Congress on the progress, needs, and long-range plans of the Institutes of Tropical Forestry in meeting the requirements of section 2407 of the Global Climate Change Prevention Act of 1990 (7 U.S.C. 6706). Such reports shall be submitted by the Secretary pursuant to section 8(c) of the Forest and Rangeland Renewable Resources Planning Act of 1974 (16 U.S.C. 1606(c)).

<< 16 USCA § 4503d >>

"SEC. 608. DEFINITIONS.

"As used in this title (unless the context otherwise requires):

"(1) INSTITUTES OF TROPICAL FORESTRY.--The term 'Institutes of Tropical Forestry' means the Institute of Tropical Forestry in Puerto Rico and the Institute of Pacific Islands Forestry established under section 2407 of the Food, Agriculture, Conservation, and Trade Act of 1990 (7 U.S.C. 6706).

"(2) SECRETARY.--The term 'Secretary' means the Secretary of Agriculture.

<<PUB#PG=1000457,4596>>"(3) STATE.--The term 'State' means each of the 50 States, Guam, American Samoa, the Republic of Palau (until the Compact of Free Association enters into effect), Puerto Rico, the Virgin Islands, and the Commonwealth of the Northern Mariana Islands."

(b) CONFORMING AMENDMENTS.--

<< 16 USCA § 4501 >>

(1) Section 602(b) of the International Forestry Cooperation Act of 1990 (16 U.S.C. 4501(b)) is amended by striking "(hereinafter referred to in this title as the Secretary)".

<< 16 USCA § 4503 >>

(2) The heading of section 604 of such Act (16 U.S.C. 4503) is amended to read as follows:

"SEC. 604. INSTITUTE OF TROPICAL FORESTRY IN PUERTO RICO."

<< 16 USCA § 4502a >>

SEC. 3. TROPICAL FORESTRY RESEARCH AND ASSISTANCE.

(a) ASSISTANCE.--To promote sound management and conservation of tropical forests of the United States and to promote the development and transfer of technical, managerial, educational, and administrative skills to managers of tropical forests within or outside the United States, the Secretary of Agriculture is authorized to provide assistance through the Forest Service to eligible entities in States with tropical forests to--

(1) develop, promote, and demonstrate sustainable harvesting of native woods and other forest products on a sustainable yield basis in balance with natural resource conservation;

(2) promote habitat preservation and species protection or recovery;

- (3) protect indigenous plant and animal species and essential watersheds from non-native animals, plants, and pathogens;
- (4) establish biological control agents for non-native species that threaten natural ecosystems;
- (5) establish a monitoring system in tropical forests to identify baseline conditions and determine detrimental changes or improvements over time;
- (6) detect and appraise stresses affecting tropical forests caused by insect infestations, diseases, pollution, fire, and non-native animal and plant species, and by the influence of people;
- (7) determine the causes of changes that are detected through experimentation, intensive monitoring, and data collection at affected tropical forest sites; and
- (8) engage in research, demonstration, education, training, and outreach that furthers the objectives of this subsection.

(b) FORM OF ASSISTANCE.--Assistance provided to eligible entities under this section may be in the form of grants, contracts, or cooperative agreements.

(c) DEFINITIONS.--As used in this section:

- (1) ELIGIBLE ENTITY.--The term "eligible entity" means a State forester or equivalent State official, State, political subdivision of a State, Federal agency, private organization, corporation, or other private person.
- (2) STATE.--The term "State" means each of the 50 States, Guam, American Samoa, the Republic of Palau (until the Compact of Free Association enters into effect), Puerto Rico, the Virgin Islands, and the Commonwealth of the Northern Mariana Islands.

<< 16 USCA § 4503a NOTE >>

<<PUB#PG=1000457,4597>>SEC. 4. HAWAII TROPICAL FOREST RECOVERY TASK FORCE.

(a) ESTABLISHMENT.--There is established the Hawaii Tropical Forest Recovery Task Force (hereafter in this section referred to as the "Task Force") to advise the Secretary of Agriculture with respect to tropical forests and related ecosystems in the State of Hawaii.

(b) ACTION PLAN.--Not later than 1 year after the date of the first meeting of the Task Force, the Task Force shall submit to the Committees, Secretaries, and Governor referred to in subsection (k) an action plan that contains findings and recommendations for rejuvenating Hawaii's tropical forests, including findings and recommendations on--

- (1) methods of restoring the health of declining or degraded tropical forest land;
- (2) compatible uses within tropical forests, particularly agroforestry and the cultivation of scarce or valuable hardwoods and other forest products in Hawaii's tropical forests;
- (3) actions to encourage and accelerate the identification and classification of unidentified plant, animal, and microbe species;
- (4) actions to--
 - (A) promote public awareness of tropical forest preservation;
 - (B) protect threatened and endangered species;
 - (C) improve forest management and planning; and
 - (D) promote public awareness of the harm caused by introduced species;
- (5) the benefits of fencing or other management activities for the protection of Hawaii's native plants and animals from non-native species, including the identification and priorities for the areas where these activities are appropriate;
- (6) traditional practices, uses, and needs of native Hawaiians in tropical forests;
- (7) means of improving the health of tropical forests and related ecosystems in the State of Hawaii through programs administered by the Secretary of Agriculture and the Secretary of the Interior;
- (8) the capability of existing Federal, State, and private forestry programs for rejuvenating Hawaii's tropical forests; and
- (9) such other issues relating to tropical forests in Hawaii as the Task Force considers appropriate.

(c) COMPOSITION.--The Task Force shall be composed of 12 members, of whom--

- (1) three members shall be appointed by the Secretary of Agriculture, two of whom shall be representatives of the Forest Service and the Soil Conservation Service, respectively;
- (2) two members shall be appointed by the Secretary of the Interior as representatives of the United States Fish and Wildlife Service and the National Park Service, respectively;
- (3) six members shall be appointed by the Governor of Hawaii, of whom--
 - (A) two members shall be private owners of tropical forest lands;

- (B) two members shall be experts in the field of tropical forestry; and
<<PUB#PG=1000457,4598>>(C) two members shall be representatives of Hawaii conservation organizations that have demonstrated expertise in the areas of tropical forest management, habitat preservation, and alien species control or have demonstrated effective advocacy in the areas; and
(4) one member shall be the Administrator of the Department of Land and Natural Resources, State of Hawaii, or the designated representative of the Administrator.
(d) INITIAL APPOINTMENTS.--Appointments under this section to the Task Force shall be made not later than 90 days after the date of enactment of this Act.
(e) CHAIRPERSON.--The Task Force shall select a Chairperson from among its members.
(f) VACANCIES.--A vacancy on the Task Force shall not affect its powers and shall be filled in the same manner as the original appointment.
(g) COMPENSATION.--
(1) IN GENERAL.--A member of the Task Force shall not receive compensation as a result of the performance of services for the Task Force.
(2) TRAVEL EXPENSES.--The members of the Task Force shall be allowed travel expenses, including per diem in lieu of subsistence, at rates authorized for employees of agencies under subchapter I of chapter 57 of title 5, United States Code, while away from their homes or regular places of business in the performance of services for the Task Force.
(h) MEETINGS.--The Task Force shall meet not later than 180 days after the date of enactment of this Act and shall meet at the call of the Chairperson.
(i) VOTING.--The Task Force shall act and advise by majority vote.
(j) ASSISTANCE.--The Secretary of Agriculture and the Secretary of the Interior shall provide such assistance and support as are necessary to meet the objectives of the Task Force. The assistance shall include making Federal facilities, equipment, tools, and technical assistance available on such terms and conditions as the appropriate Secretary considers necessary.
(k) REPORT.--The action plan required under subsection (b) shall be submitted to--
(1) the Committees on Agriculture and Interior of the House of Representatives;
(2) the Committees on Agriculture, Nutrition, and Forestry and Energy and Natural Resources of the Senate;
(3) the Secretary of Agriculture;
(4) the Secretary of the Interior; and
(5) the Governor of Hawaii.
(l) NONAPPLICABILITY OF CERTAIN PROVISIONS OF LAW.--Sections 7(d), 10(f), and 14 of the Federal Advisory Committee Act (5 U.S.C.App. 2) shall not apply to the Task Force.
<<PUB#PG=1000457,4599>>(m) TERMINATION.--The Task Force and authority to carry out this section shall terminate 180 days after submitting the report required by subsection (b).

<< 16 USCA § 4502a NOTE >>

SEC. 5. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated such sums as are necessary to carry out sections 3 and 4.

Approved October 29, 1992.

PL 102-574, 1992 S 2679

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16 U.S.C.A. § 1643

United States Code Annotated Currentness

Title 16. Conservation

■ Chapter 36. Forest and Rangeland Renewable Resources Planning (Refs & Annos)■ Subchapter II. Research➔ **§ 1643. Implementation of provisions**

(a) Establishment and maintenance of research facilities; acquisition, expenditures, etc., for property

In implementing this subchapter, the Secretary is authorized to establish and maintain a system of experiment stations, research laboratories, experimental areas, and other forest and rangeland research facilities. The Secretary is authorized, with donated or appropriated funds, to acquire by lease, donation, purchase, exchange, or otherwise, land or interests in land within the United States needed to implement this subchapter, to make necessary expenditures to examine, appraise, and survey such property, and to do all things incident to perfecting title thereto in the United States.

(b) Acceptance, holding, and administration of gifts, donations, and bequests; use and investment of gifts, proceeds, etc.; funding requirements

In implementing this subchapter, the Secretary is authorized to accept, hold, and administer gifts, donations, and bequests of money, real property, or personal property from any source not otherwise prohibited by law and to use such gifts, donations, and bequests to (1) establish or operate any forest and rangeland research facility within the United States, or (2) perform any forest and rangeland renewable resource research activity authorized by this subchapter. Such gifts, donations, and bequests, or the proceeds thereof, and money appropriated for these purposes shall be deposited in the Treasury in a special fund. At the request of the Secretary, the Secretary of the Treasury may invest or reinvest any money in the fund that in the opinion of the Secretary is not needed for current operations. Such investments shall be in public debt securities with maturities suitable for the needs of the fund and bearing interest at prevailing market rates. There are hereby authorized to be expended from such fund such amounts as may be specified in annual appropriation Acts, which shall remain available until expended.

(c) Cooperation with international, Federal, State, and other governmental agencies, public and private agencies, etc.; funding requirements for contributions from cooperators

In implementing this subchapter, the Secretary may cooperate with international, Federal, State, and other governmental agencies, with public or private agencies, institutions, universities, and organizations, and with businesses and individuals in the United States and in other countries. The Secretary may receive money and other contributions from cooperators under such conditions as the Secretary may prescribe. Any money contributions received under this subsection shall be credited to the applicable appropriation or fund to be used for the same purposes and shall remain available until expended as the Secretary may direct for use in conducting research activities authorized by this subchapter and in making refunds to contributors.

CREDIT(S)

(Pub.L. 95-307, § 4(a)-(c), June 30, 1978, 92 Stat. 354; Pub.L. 101-513, Title VI, § 611(a)(2), formerly § 607(a)(2), Nov. 5, 1990, 104 Stat. 2072, renumbered § 611(a)(2), Pub.L. 102-574, § 2(a)(1), Oct. 29, 1992, 106 Stat. 4593.)

HISTORICAL AND STATUTORY NOTES

Revision Notes and Legislative Reports

1978 Acts. Senate Report No. 95-880, see 1978 U.S. Code Cong. and Adm. News, p. 951.

References in Text

This subchapter, referred to in text, in the original read "this Act", meaning the Forest and Rangeland Renewable Resources Research Act of 1978, which enacted this subchapter, repealed sections 581 to 581i of this title, and enacted provisions set out as a note under section 1641 of this title. For complete classification, see Short Title note set out under section 1600 of this title and Tables.

Amendments

1990 Amendments. Subsec. (c). Pub.L. 101-513 inserted provisions relating to international agencies.

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16 U.S.C.A. § 1643, 16 USCA § 1643

Current through P.L. 108-421 (excluding P.L. 108-357, 108-375, 108-419) approved 11-30-04.

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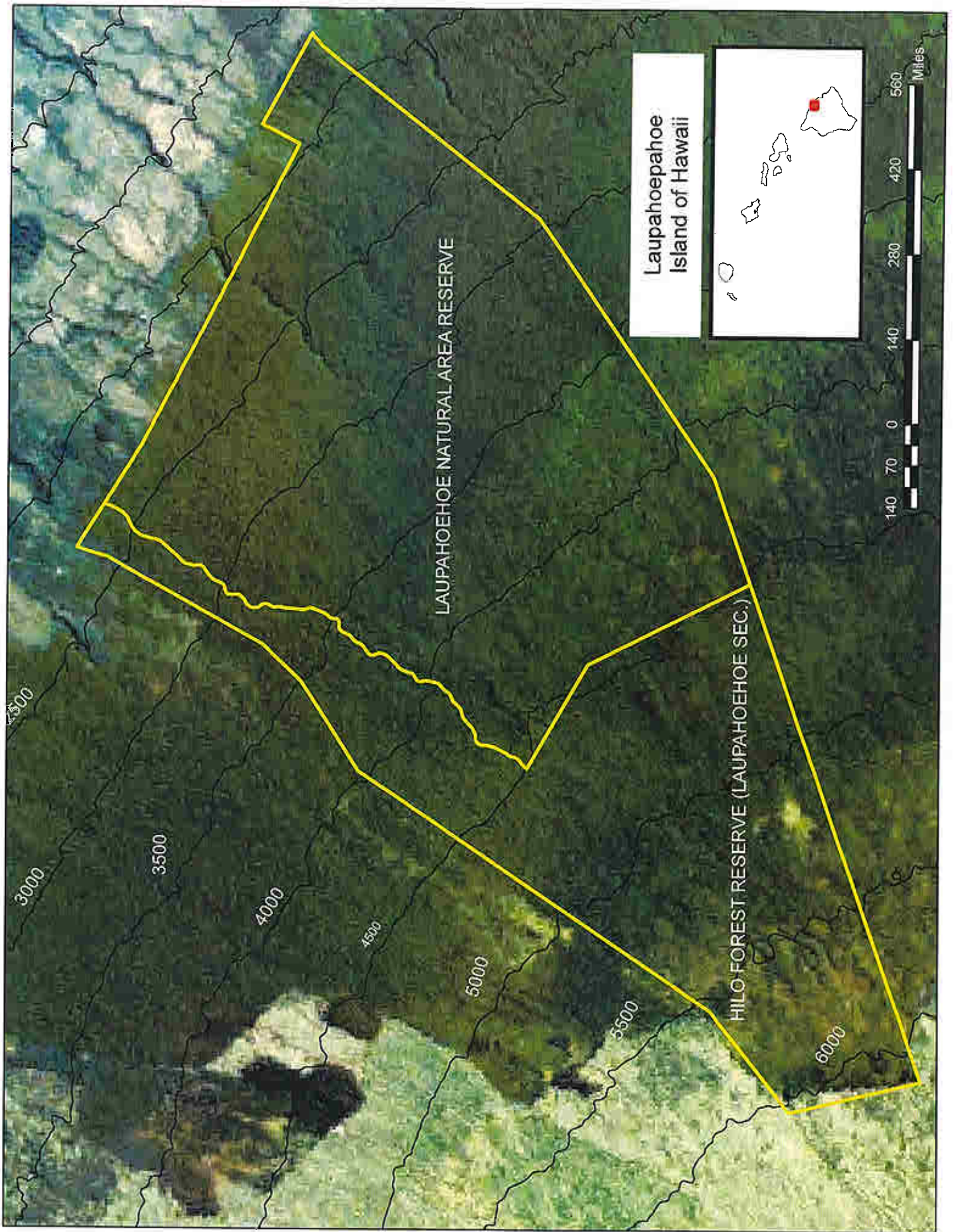
This report was prepared by personnel of:

**State of Hawai`i
Department of Land and Natural Resources
Division of Forestry and Wildlife**

**The Institute of Pacific Islands Forestry
U.S. Department of Agriculture Forest Service
Pacific South West Research Station**



Principal authors include: J. Boone Kauffman, Paul Conry, and Roger Imoto



Puu Waawaa Island of Hawaii

